

CLAIMS

What is claimed is:

1. An electrolyte membrane comprising a porous substrate and an electrolyte polymer, the electrolyte membrane being formed by filling the pores of the porous substrate with the electrolyte polymer, and the porous substrate having a ratio of the maximum value to the minimum value (maximum value / minimum value) of the ionic conductivity measured in a plane direction of no greater than 1.5.
2. The electrolyte membrane according to Claim 1, wherein the porous substrate is produced via a drawing step, and the ratio of the maximum value to the minimum value (maximum value / minimum value) of the amount of drawing within the plane is no greater than 2.5.
3. The electrolyte membrane according to either Claim 1 or 2, wherein the porous substrate is produced via a biaxial drawing step.
4. The electrolyte membrane according to any one of Claims 1 to 3, wherein the porous substrate comprises a polyolefin or a crosslinked polyolefin.
5. The polymer electrolyte membrane according to any one of Claims 1 to 4, wherein the polymer electrolyte membrane is obtained by impregnating the porous substrate with an electrolyte monomer, or a monomer that can be converted into a group that can function as an electrolyte after polymerization, or a solution or dispersion containing the above, and then polymerizing the monomer.
6. A fuel cell that incorporates the electrolyte membrane according to any one of Claims 1 to 5.